CENTERS FOR DISEASE CONTROL

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Progress in Chronic Disease Prevention

Introduction

This issue of the MMWR *introduces a new series of topics, "Progress in Chronic Disease Prevention". This series was prompted by the increasing involvement of public health agencies in chronic disease prevention and control and, specifically, by recommendations from the First National Conference on Chronic Disease Prevention and Control held in Atlanta, Georgia, in September 1986. Articles will appear regularly in the* MMWR *highlighting progress and advances made in the prevention and control of certain chronic diseases.*

Demonstration to Improve Care Practices for Diabetic Patients in Primary Care Centers — Florida

To demonstrate the impact of public health strategies on changing care practices, the Florida Diabetes Control Program (DCP) implemented and evaluated nationally recognized guidelines for diabetes care in three federally funded primary care centers serving a largely migrant population. The guidelines were based on recommendations in "The Prevention and Treatment of Five Complications of Diabetes, A Guide for Primary Care Practitioners" (*1*). The interventions provided state-of-the-art professional education and encouraged adoption of current care guidelines. Evaluation assessed subsequent changes in health care practices.

All medical records with a diagnosis of diabetes in the three centers were reviewed, and the baseline care practices related to complications of diabetes were documented. Follow-up chart reviews were completed 1 year after the intervention was initiated. The information collected in the pre- and post-intervention assessments was based on the above guidelines. The intervention included identifying and training a nurse coordinator to monitor the program; to be responsible for patient follow-up, quality assurance, professional and patient education programs at each site; and to assure close consultation between the primary care staff and the DCP. In addition, information on hypertension in patients with diabetes was collected because of its importance as a risk factor for amputation and renal and cardiovascular diseases.

Of 648 patients identified at baseline, 399 (62%) were seen at the clinics during the intervention year. Follow-up on these patients is reported here. The participants' mean age was 60.1 years; mean duration of diabetes was 10.4 years; 67% were female; 32% were white; 45%, black; and 23%, Hispanic. Forty-three percent were treated with insulin, and 48%, with oral agents; 8% were managed on diet alone.

Diabetic Patients — Continued

At baseline, 28% of records documented that providers took a history of visual problems. This documentation improved to 38% ($p<0.01$) after intervention. Forty-five (11%) of records described a fundus exam at baseline, but dilation of the pupil was not listed. The number of examinations improved to 46% ($p<0.001$) after intervention. Eight percent had documentation of an ophthalmologic referral or examination at baseline. During the intervention, all patients were advised to see an ophthalmologist, and 42% actually did.

At baseline, there was a record of urinalysis for 69% of patients; at follow-up, 94% of records indicated urinalysis ($p<0.001$). Among those with a urinalysis, proteinuria was recorded in 34%; this did not change significantly at follow-up (32%). Of those with proteinuria, 73% had blood urea nitrogen and creatinine levels recorded at baseline; this remained virtually unchanged (71%) following intervention.

At baseline, 45% of records documented inquiry about foot problems, and 66% documented examinations of the feet and lower extremities in the year prior to intervention. At follow-up, inquiry and examination increased to 73% and 94% respectively ($p<0.01$ for both). Documented problems at follow-up included amputation among 3% of patients, decreased pulse among 22%, decreased sensation among 26%, and infection among 5%.

Blood pressure was universally recorded in both years. At baseline 61% of diabetic patients were hypertensive*, as compared with 68% at follow-up. Among the patients diagnosed as hypertensive at baseline, 21% were still hypertensive when their blood pressure was last recorded. Following intervention, 17% of hypertensive patients had an elevated pressure.

Because of the high patient drop-out rate, two of the centers with 455 of the original 648 patients gathered information on 210 patients (46%) who were not active at the clinics during the intervention phase. Sixteen had died; 81 had transferred to another clinic, HMO, or private physician; and 113 could not be located despite repeated attempts, including letters, telephone calls, and outreach visits.

Reported by West Orange Farm Workers Assoc, Inc, Apopka, Ruskin Migrant and Community Health Center, Inc, Ruskin, Palm Beach County Migrant Health Center, Inc, West Palm Beach, L Deeb, MD, G Freeman, FP Pettijohn, J Witte, MD, MPH, Florida Dept of Health and Rehabilitative Svcs; Div of Diabetes Control, Center for Prevention Svcs, CDC.

Editorial Note: The focus of diabetes control programs is on the prevention of morbidity and mortality associated with complications of the disease. Good data exist which demonstrate the effectiveness of secondary prevention efforts. Laser therapy has been proven as an effective means of retarding the development of blindness due to retinopathy; hypertension control is known to slow the progression of renal disease; and proper foot care along with vigorous care of lower extremity lesions will reduce the incidence of amputation.

Although measurement of changes in professional behavior is one step removed from measurement of actual reductions in morbidity and mortality, timely delivery of these preventive services is necessary to reduce the complications of diabetes. Most complications of diabetes are most amenable to treatment in early, clinically silent stages. Therefore, the documented and timely practices of health care professionals are crucial to intervention and programmatic success. Similarly, rigorous patient education is essential because of the patient's central role in his own medical management.

As in many similar populations, high patient turnover prevents complete longitudinal follow-up in these primary care centers. The baseline data from this demonstration suggest a serious gap in current care provided to persons with diabetes by the public health sector. Although this evaluation cannot differentiate between the absence of care and the absence of documentation, only the actual recording of diagnostic and therapeutic procedures can indicate to a practitioner when repeat or follow-up care should be delivered.

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*$>$ 140mm Hg systolic or 90mm Hg diastolic.

Diabetic Patients — Continued

This demonstration program documents the potential and measurable impact that coordinated efforts to improve care for diabetes can have. Information from other control clinics suggests that similar improvements do not occur in the absence of intervention. These findings support a general impression that reducing treatable complications of diabetes requires influencing the care practices of both the primary care physician and the professionals with whom they work.

References

1. National Diabetes Advisory Board. The prevention and treatment of five complications of diabetes: a guide for primary care practitioners. Washington, DC: US Department of Health and Human Services, Public Health Service, 1983; DHHS publication no. (HHS)83-8392.

Epidemiologic Notes and Reports

Penicillinase-Producing *Neisseria gonorrhoeae* — United States, 1986

In 1986, 16,608 cases of infection caused by penicillinase-producing *Neisseria gonorrhoeae* (PPNG) were reported to CDC. This represented 1.8% of all reported gonorrhea and was a 90% increase over the 8,724 cases reported in 1985. PPNG incidence has risen fourfold since 1984. Sixty-four percent of cases in 1986 occurred in the three areas previously identified as hyperendemic—Florida, New York City, and Los Angeles (*1*).

New York City experienced the greatest proportional increase of PPNG incidence despite its policy of treating all patients diagnosed with gonorrhea in the public clinics with antimicrobials effective against PPNG. In 1986, 3,986 cases were reported, compared with the 1,567 cases reported in 1985—a 154% increase. The proportion of total gonorrhea attributable to PPNG was 4.3%. Outbreaks have been identified in suburban areas of New York City located on Long Island and in New Jersey and Westchester County.

In Florida, 5,629 PPNG cases were reported—34% of the national total. In Dade County (Miami), Florida, the most severely affected county in the country, reported cases of PPNG increased from 2,455 in 1985 to 2,648 in 1986—an 8% increase. In 1986, the proportion of total gonorrhea attributable to PPNG in Dade County was 22%. Excluding Dade County, reported cases in Florida increased from 1,710 in 1985 to 2,981 in 1986—a 74% increase. The number of counties in Florida reporting hyperendemic PPNG (a proportion of PPNG > 3%) rose from 16 counties in 1985 to 31 counties in 1986. These counties contain 69% of the state's population.

In Los Angeles, the number of cases increased from 488 in 1985 to 942 in 1986—a 93% increase. Another center of PPNG activity, probably representing secondary spread, has also been identified in suburban Orange County.

Reported by J Hill, J Witte, MD, J Wroten, MH Wilder, MD, Acting State Epidemiologist, Florida Dept of Health and Rehabilitative Svcs; S Fannin, MD, Los Angeles Health Dept; S Joseph, MD, J Miles, S Schultz, MD, New York City Health Dept; Div of Sexually Transmitted Diseases, Center for Prevention Svcs, CDC.

Editorial Note: The incidence of antibiotic-resistant gonorrhea, and PPNG in particular, continues to increase and is spreading to previously unaffected areas. In earlier PPNG outbreaks, travel to PPNG endemic areas and prostitute contact were cited as risk factors for infection (*2*). While these factors may play an important role in the spread of PPNG disease to areas previously free of disease, once PPNG becomes endemic, it has the same epidemiologic characteristics as endemic, antibiotic-sensitive gonorrhea. PPNG patients have been predominantly inner-city residents, members of ethnic minority groups, and heterosexuals. Although high-risk groups for gonorrhea have included homosexual men, PPNG outbreaks among homosexual

Neisseria gonorrhoeae — *Continued*

men are rare. The reasons for this are not entirely clear. Recent evidence from a CDC study in Miami has associated PPNG infection with inappropriate use of antibiotics (*3*).

Patients with inadequately treated PPNG infection are at high risk for complications. Women are especially at high risk for pelvic inflammatory disease. PPNG is effectively treated with ceftriaxone or spectinomycin, in doses recommended in the "1985 STD Treatment Guidelines" (*4*).

Once antibiotic-resistant gonorrhea becomes endemic, eradication is extremely difficult; it is also expensive. In these areas, all patients with a presumptive diagnosis of gonorrhea should be treated with either ceftriaxone or spectinomycin. Comprehensive recommendations for prevention, surveillance, diagnosis, and control of antibiotic-resistant gonorrhea have been recently developed by CDC in consultation with an expert advisory panel and are currently being reviewed by state and local health officials. These will be published later this spring as an MMWR supplement.

References

1. CDC. Penicillinase-producing *Neisseria gonorrhoeae* —United States, Florida. MMWR 1986;35: 12-4.
2. Jaffe HW, Biddle JW, Johnson SR, Wiesner PJ. Infections due to penicillinase-producing *Neisseria gonorrhoeae* in the United States: 1976-1980. J Infect Dis 1981;144:191-7.
3. Zenilman JM, Bonner M, Sharp K, Alexander ER. Penicillinase-producing *Neisseria gonorrhoeae* (PPNG) in Miami: etiologic roles of core group transmitters and of the illicit use of antibiotics [Abstract]. New Orleans: 26th Interscience Conference on Antimicrobial Agents and Chemotherapy (ICAAC), 1986.
4. CDC. 1985 STD treatment guidelines. MMWR 1985;34(4S).

Acute Rheumatic Fever — Utah

In early 1985, physicians at Primary Children's Medical Center in Salt Lake City noticed an apparent increase in cases of acute rheumatic fever (ARF) (*1*). As a result, the Utah Department of Health increased efforts to promote physician reporting of cases, and 136 cases of ARF were reported from January 1, 1985, through December 31, 1986. One hundred and seven (79%) were verified as first-attack cases by the Jones Criteria (Revised) for Guidance in the Diagnosis of Rheumatic Fever, and data were collected on 99 (93%) verified cases by telephone interview (*2*). An investigation of this unexpected occurrence confirmed an increase in the state's rate of rheumatic fever and defined characteristics of patients; these characteristics may help direct control efforts.

The 99 verified cases were in 20 of Utah's 29 counties; the largest number occurred in the more heavily populated counties of Salt Lake and Utah. The cases occurred throughout the year, with a peak during the months of March and April. The mean age of patients was 11.8 (range = 3-42); seven patients were ≥28 years of age. Incidence rates of ARF in children between the ages of 3 and 17 were 11.8/100,000 population in 1985 and 8.2/100,000 in 1986. Ninety-four percent of all patients were Caucasian; 4%, Pacific Islanders; 1%, Hispanic; and 1%, Asian. Fifty-seven percent were male. The mean household size was 6.1 with a mean income of $25,000-$30,000 (the poverty level for a family of six is $15,985). Fifty-six percent of the patients' parents had attended or completed college.

Although 50 of the 99 patients described a sore throat during the 2-month period before onset of rheumatic fever symptoms (range = 1-30 days, mean = 5.4 days), only 9% of patients had fever, sore throat, and tender cervical adenopathy. Thirty-one persons saw a physician for an illness before the diagnosis of ARF, and 16 had throat cultures taken; streptococci were isolated from nine of these. Sixteen (53%) of 30 patients who received an antibiotic before diagnosis of ARF subsequently received a 10-day course of an antibiotic to which the

Rheumatic Fever — Continued

organism was susceptible. Forty-two of the 99 patients were hospitalized at the time ARF was diagnosed. The distribution of major manifestations is shown in Table 1. Thirty-eight patients had a family history of rheumatic fever in a parent, sibling, aunt, uncle, or grandparent; 22 had at least one parent with a history of ARF.

Further investigations are planned to identify possible risk factors, including changes in incidence, detection, and appropriate treatment of streptococcal infections; changes in the prevalence and virulence of strains of *Streptococcus*; and genetic predisposition to ARF. The Utah Department of Health will continue to stimulate reporting of cases by physicians; to maintain a registry for verifying cases and to collect baseline and follow-up data on all cases; to implement physician, public, patient, and school health education programs; and to recommend consultation with a physician for febrile illnesses lasting longer than 72 hours, especially in families with histories of rheumatic fever.

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Editorial Note: Population-based surveys and state-operated rheumatic fever surveillance systems provide the two main sources of data on the incidence of ARF in the United States. Population-based studies have documented the steadily falling rates of ARF from 1935-1980 (*3-10*). For example, in the 1960s, estimated overall incidence rates were between 25-30/100,000 population in both urban and suburban settings; by 1980, they were 0.2-0.8 cases/100,000 population. However, rates among all races except whites continue to be several times higher than the rate among whites. A recent survey of 50 states and the District of Columbia conducted by CDC showed that, in the past 2 to 3 years, six of 24 states with passive surveillance for ARF had reported cases representing a two-fold increase over the previous baseline.

Historically, surveillance for ARF has been flawed by over- and under-reporting associated with diagnostic errors and failure to verify cases (*11,12*). In the last 5 years, many states have discontinued ARF surveillance because of cost and the apparently low rate of disease.

The reasons for the decline in incidence of ARF during the last several decades are unknown. The decrease has been attributed to a number of factors, including improved living conditions and medical care, the introduction of antimicrobials to which the organism is uniformly sensitive, and the disappearance of specific strains of group A *Streptococcus* that may cause rheumatic fever in susceptible persons. Of these possible explanations, the existence of rheumatogenic strains of *Streptococcus* remains the most intriguing and controversial. Temporal and geographic clustering of some ARF cases suggests the presence of rheumatogenic strains. In addition, the major M protein serotypes of group A *Streptococcus* fre-

TABLE 1. Ninety-nine cases of acute rheumatic fever, by three major manifestations of Jones Criteria — Utah, 1985-1986

Major manifestations*	Number	Percent
Carditis	14	14
Polyarthritis	14	14
Chorea	4	4
Carditis and polyarthritis	43	44
Carditis and chorea	14	14
Carditis, chorea, and polyarthritis	6	6
Polyarthritis and chorea	4	4
Total	**99**	**100**

*Categories are mutually exclusive.

Rheumatic Fever – Continued

quently isolated today differ from the types that caused epidemic rheumatic fever in military populations 20 years ago and from the predominant strains isolated from ARF patients in northern cities in the 1950s (*13,14*). The role of particular strains in Utah is unclear because of the small number of isolates of group A *Streptococcus* recovered from patients and family members.

Thirty-eight percent of patients in Utah had a history of ARF in their extended families. Some investigators believe individuals may have a genetic susceptibility to ARF. Studies of the distribution of histocompatibility leukocyte antigens (HLA) in patients with ARF and in healthy control subjects have been inconclusive. One recent study reported a higher frequency of HLA-DR2 phenotype among black patients with rheumatic fever than among the control population, while Caucasians showed a higher frequency of HLA-DR4 phenotype (*15*). Further support for a link between genetic constitution and susceptibility to ARF is the finding of a B cell alloantigen, 883, in 75% of patients with rheumatic fever in New York City and Bogota, Columbia, as compared with 20% of controls (*16,17*).

The increased incidence of ARF in Utah may represent a cyclical pattern of the disease not previously recognized. Since 50% of patients with ARF did not have a sore throat during the

(Continued on page 115)

TABLE I. Summary—cases specified notifiable diseases, United States

Disease	8th Week Ending			Cumulative, 8th Week Ending		
	Feb. 28, 1987	Feb. 22, 1986	Median 1982-1986	Feb. 28, 1987	Feb. 22, 1986	Median 1982-1986
Acquired Immunodeficiency Syndrome (AIDS)	806	222	N	3,094	1,758	N
Aseptic meningitis	82	83	80	667	660	660
Encephalitis: Primary (arthropod-borne & unspec.)	11	19	19	107	133	133
Post-infectious	1	-	1	4	9	9
Gonorrhea: Civilian	14,786	17,813	16,561	125,079	127,030	127,190
Military	297	417	387	2,579	2,388	3,128
Hepatitis: Type A	491	413	504	3,492	3,388	3,388
Type B	500	412	479	3,397	3,388	3,388
Non A, Non B	48	55	N	386	443	N
Unspecified	67	94	130	521	763	763
Legionellosis	14	10	N	87	88	N
Leprosy	7	-	5	37	32	32
Malaria	9	15	16	95	95	99
Measles: Total*	44	264	28	212	482	110
Indigenous	23	259	N	156	468	N
Imported	21	5	N	56	14	N
Meningococcal infections: Total	88	75	76	533	465	475
Civilian	88	75	76	532	465	466
Military	-	-	-	1	-	-
Mumps	396	68	80	2,282	405	514
Pertussis	39	44	41	284	325	232
Rubella (German measles)	3	5	13	31	56	68
Syphilis (Primary & Secondary): Civilian	579	535	593	4,784	3,833	4,474
Military	-	8	7	41	32	52
Toxic Shock syndrome	4	4	N	43	37	N
Tuberculosis	333	383	392	2,456	2,479	2,778
Tularemia	1	1	2	12	10	13
Typhoid fever	1	7	7	26	33	62
Typhus fever, tick-borne (RMSF)	1	-	-	7	7	7
Rabies, animal	51	72	108	480	607	616

TABLE II. Notifiable diseases of low frequency, United States

	Cum 1987		Cum 1987
Anthrax	-	Leptospirosis (La. 1)	4
Botulism: Foodborne	-	Plague	1
Infant	7	Poliomyelitis, Paralytic	-
Other	-	Psittacosis (Upstate N.Y. 1; Alaska 1)	9
Brucellosis (Miss. 1)	10	Rabies, human	-
Cholera	-	Tetanus	3
Congenital rubella syndrome	-	Trichinosis	7
Congenital syphilis, ages < 1 year	-	Typhus fever, flea-borne (endemic, murine) (Upstate N.Y. 2)	4
Diphtheria	1		

*Twenty-one of the 44 reported cases for this week were imported from a foreign country or can be directly traceable to a knowingly imported case within two generations.

TABLE III. Cases of specified notifiable diseases, United States, weeks ending February 28, 1987 and February 22, 1986 (8th Week)

Reporting Area	AIDS	Aseptic Meningitis	Encephalitis		Gonorrhea (Civilian)		Hepatitis (Viral), by type				Legionellosis	Leprosy
			Primary	Post-infectious			A	B	NA,NB	Unspecified		
	Cum 1987	1987	Cum 1987	Cum 1987	Cum 1987	Cum 1986	1987	1987	1987	1987	1987	Cum 1987
UNITED STATES	3,094	82	107	4	125,079	127,030	491	500	48	67	14	37
NEW ENGLAND	122	6	7	1	4,648	2,896	12	32	4	7	1	1
Maine	7	1	-	-	162	137	-	1	-	-	-	-
N.H.	4	-	-	-	69	90	1	5	1	-	-	-
Vt.	1	2	1	-	30	45	-	3	-	-	-	-
Mass.	88	2	3	-	1,736	1,261	5	20	2	6	1	1
R.I.	13	1	2	1	377	274	2	3	1	1	-	-
Conn.	31	-	1	-	2,272	1,089	4	-	-	-	-	-
MID. ATLANTIC	1,154	2	15	-	19,286	20,330	7	37	-	2	-	-
Upstate N.Y.	322	2	6	-	2,503	2,274	5	18	-	-	-	-
N.Y. City	600	U	3	-	10,488	12,430	U	U	U	U	U	-
N.J.	173	-	1	-	1,939	2,072	2	21	-	2	-	-
Pa.	59	-	5	-	4,356	3,554	-	-	-	-	-	-
E.N. CENTRAL	149	20	31	-	13,888	18,555	39	65	3	6	5	1
Ohio	24	7	18	-	3,604	4,606	4	19	-	-	3	1
Ind.	17	5	1	-	1,087	1,999	2	5	2	2	-	-
Ill.	56	6	2	-	1,887	4,350	14	24	-	2	-	-
Mich.	34	2	10	-	5,772	5,482	19	17	1	2	2	-
Wis.	18	-	-	-	1,278	2,118	-	-	-	-	-	-
W.N. CENTRAL	76	7	3	-	5,351	5,665	19	10	6	1	2	-
Minn.	15	1	1	-	911	809	4	2	2	-	-	-
Iowa	2	2	-	-	554	606	1	4	2	-	2	-
Mo.	49	-	-	-	2,845	2,745	4	2	1	1	-	-
N. Dak.	-	-	-	-	67	59	-	-	-	-	-	-
S. Dak.	-	-	-	-	118	93	-	-	-	-	-	-
Nebr.	4	4	2	-	301	311	-	1	-	-	-	-
Kans.	6	-	-	-	755	1,042	10	1	1	-	-	-
S. ATLANTIC	455	23	21	1	33,732	32,135	33	84	6	13	3	1
Del.	6	-	1	-	489	527	3	3	-	-	-	-
Md.	48	4	1	-	3,657	3,647	4	14	-	2	-	1
D.C.	67	-	-	-	2,093	2,488	-	1	-	-	-	-
Va.	26	3	10	1	2,733	2,771	10	10	-	6	-	-
W. Va.	2	-	4	-	218	347	1	1	-	-	-	-
N.C.	25	4	4	-	5,109	4,198	2	8	1	1	-	-
S.C.	8	-	-	-	3,331	2,988	1	5	-	1	-	-
Ga.	70	1	-	-	5,756	6,882	1	16	2	-	1	-
Fla.	203	11	1	-	10,346	8,487	11	27	3	3	2	-
E.S. CENTRAL	11	11	6	2	9,513	10,556	2	17	7	1	-	-
Ky.	4	2	2	1	962	1,223	-	2	1	-	-	-
Tenn.	-	4	2	-	3,320	4,257	-	8	1	-	-	-
Ala.	3	3	2	-	3,204	2,756	1	6	4	-	-	-
Miss.	4	2	-	1	2,027	2,320	1	1	1	1	-	-
W.S. CENTRAL	336	6	7	-	14,971	15,796	32	57	3	4	2	4
Ark.	6	-	-	-	1,482	1,527	-	-	-	-	-	-
La.	49	-	1	-	2,920	2,787	-	38	-	-	-	-
Okla.	11	-	2	-	1,594	1,807	5	4	1	-	-	-
Tex.	270	6	4	-	8,975	9,675	27	15	2	4	2	4
MOUNTAIN	73	-	5	-	3,383	3,501	75	51	4	10	-	-
Mont.	1	-	-	-	76	96	1	-	-	-	-	-
Idaho	1	-	-	-	128	104	3	-	-	-	-	-
Wyo.	1	-	-	-	54	82	-	1	-	-	-	-
Colo.	43	-	1	-	697	996	4	10	3	7	-	-
N. Mex.	10	-	1	-	370	422	8	4	1	-	-	-
Ariz.	3	-	3	-	1,183	903	49	27	-	1	-	-
Utah	6	-	-	-	146	172	8	4	-	-	-	-
Nev.	8	-	-	-	729	726	2	5	-	2	-	-
PACIFIC	718	7	12	-	20,609	17,596	272	147	15	23	1	30
Wash.	30	-	3	-	1,229	1,519	113	38	7	12	-	2
Oreg.	11	-	-	-	723	683	33	22	2	-	-	-
Calif.	661	7	9	-	18,088	14,664	120	76	5	11	-	28
Alaska	2	-	-	-	379	552	4	3	-	-	1	-
Hawaii	14	-	-	-	190	178	2	8	1	-	-	2
Guam	-	-	-	-	40	5	-	-	-	-	-	-
P.R.	-	-	-	-	394	340	-	2	-	-	-	-
V.I.	-	-	-	-	34	32	-	1	-	-	-	-
Pac. Trust Terr.	-	-	-	-	52	-	8	-	-	-	-	5
Amer. Samoa	-	-	-	-	15	-	-	-	-	-	-	-

- Not notifiable U Unavailable

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 28, 1987 and February 22, 1986 (8th Week)

Reporting Area	Malaria	Measles (Rubeola)					Menin-gococcal Infections	Mumps		Pertussis			Rubella		
		Indigenous		Imported *		Total									
	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	Cum. 1987	1987	Cum. 1987	1987	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986
UNITED STATES	95	23	158	21	56	482	533	398	2,282	39	264	325	3	31	56
NEW ENGLAND	8	-	1	-	5	5	51	1	8	-	5	26	-	-	1
Maine	-	-	-	-	-	-	4	-	-	-	-	2	-	-	-
N.H.	-	-	-	-	-	-	7	1	6	-	1	9	-	-	1
Vt.	-	-	1	-	5	-	4	-	1	-	1	1	-	-	-
Mass.	4	-	-	-	-	5	24	-	-	-	2	8	-	-	-
R.I.	3	-	-	-	-	-	6	-	-	-	-	1	-	-	-
Conn.	1	-	-	-	-	-	6	-	1	-	1	5	-	-	-
MID ATLANTIC	6	-	23	6 †	24	177	44	5	41	-	31	45	-	-	18
Upstate N.Y.	3	-	1	4 †	8	2	25	1	13	-	22	31	-	-	12
N.Y. City	-	U	22	U	-	12	3	U	-	U	-	-	U	-	5
N.J.	1	-	-	-	1	163	-	2	13	-	1	5	-	-	1
Pa.	2	-	-	2 †	15	-	16	2	15	-	8	9	-	-	-
E.N. CENTRAL	2	-	24	-	5	107	73	237	1,584	8	37	92	1	5	4
Ohio	2	-	-	-	4	-	29	8	32	4	19	38	-	-	-
Ind.	-	-	-	-	-	-	11	32	158	-	-	9	-	-	-
Ill.	-	-	2	-	-	66	4	122	926	1	1	16	1	4	1
Mich.	-	-	22	-	-	-	26	70	269	3	9	7	-	1	2
Wis.	-	-	-	-	1	42	3	5	179	-	8	22	-	-	1
W.N. CENTRAL	3	-	-	-	-	46	30	31	115	2	21	24	-	-	3
Minn.	2	-	-	-	-	-	8	20	50	-	2	12	-	-	-
Iowa	-	-	-	-	-	-	2	3	39	-	2	2	-	-	-
Mo.	1	-	-	-	-	-	8	-	3	2	9	1	-	-	1
N. Dak.	-	-	-	-	-	-	1	-	-	-	1	2	-	-	-
S. Dak.	-	-	-	-	-	-	1	-	8	-	1	-	-	-	-
Nebr.	-	-	-	-	-	-	-	-	-	-	-	1	-	-	-
Kans.	-	-	-	-	-	46	10	8	15	-	8	8	-	-	2
S. ATLANTIC	13	-	-	-	-	45	107	2	19	16	66	83	-	2	1
Del.	1	-	-	-	-	-	3	-	-	-	-	-	-	-	-
Md.	3	-	-	-	-	-	12	-	5	-	-	14	-	-	-
D.C.	1	-	-	-	-	-	2	-	-	-	-	-	-	-	-
Va.	2	-	-	-	-	-	20	-	-	2	20	6	-	-	-
W. Va.	-	-	-	-	-	-	-	1	6	12	19	-	-	-	-
N.C.	2	-	-	-	-	-	12	-	2	2	22	9	-	-	-
S.C.	-	-	-	-	-	37	7	-	-	-	-	1	-	-	-
Ga.	2	-	-	-	-	-	24	-	1	-	4	17	-	-	-
Fla.	2	-	-	-	-	8	27	1	5	-	1	6	-	2	1
E.S. CENTRAL	1	-	-	-	-	-	31	83	374	1	5	8	-	2	1
Ky.	-	-	-	-	-	-	4	56	101	-	1	1	-	2	1
Tenn.	-	-	-	-	-	-	14	7	272	-	-	2	-	-	-
Ala.	-	-	-	-	-	-	9	-	1	1	2	5	-	-	-
Miss.	1	-	-	-	-	-	4	-	-	-	2	-	-	-	-
W.S. CENTRAL	6	-	2	-	1	22	46	28	66	7	13	15	-	-	7
Ark.	1	-	-	-	-	21	-	-	1	-	-	-	-	-	-
La.	-	-	-	-	-	-	5	12	18	2	2	1	-	-	-
Okla.	1	-	-	-	1	-	9	N	N	5	11	14	-	-	-
Tex.	4	-	2	-	-	1	32	14	48	-	-	-	-	-	7
MOUNTAIN	3	7	14	-	1	30	19	20	44	1	22	31	-	1	-
Mont.	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Idaho	-	-	-	-	-	-	1	-	-	-	11	7	-	-	-
Wyo.	-	-	-	-	-	-	-	-	-	-	2	-	-	-	-
Colo.	-	-	-	-	-	2	5	2	5	-	7	7	-	-	-
N. Mex.	-	7	14	-	-	13	1	N	N	-	1	6	-	-	-
Ariz.	1	-	-	-	1	15	10	18	37	-	-	10	-	-	-
Utah	-	-	-	-	-	-	-	-	1	1	1	1	-	1	-
Nev.	2	-	-	-	-	-	2	-	1	-	-	-	-	-	-
PACIFIC	53	16	92	15	20	50	132	11	51	4	64	31	2	21	21
Wash.	2	-	-	-	-	18	26	1	8	-	9	14	-	-	-
Oreg.	1	-	1	15 †	20	1	10	N	N	1	9	2	-	1	-
Calif.	49	15	90	-	-	28	93	8	39	2	37	13	1	18	21
Alaska	1	-	-	-	-	-	2	-	-	-	2	1	-	-	-
Hawaii	-	1	1	-	-	3	1	2	4	1	7	1	1	2	-
Guam	-	-	1	-	-	-	2	-	2	-	-	-	-	-	-
P.R.	-	-	-	-	-	4	1	1	1	1	5	2	1	1	-
V.I.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Pac. Trust Terr.	-	-	-	-	-	-	-	-	1	-	-	-	-	-	-
Amer. Samoa	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

*For measles only, imported cases includes both out-of-state and international importations.

N: Not notifiable U: Unavailable †International §Out-of-state

TABLE III. (Cont'd.) Cases of specified notifiable diseases, United States, weeks ending February 28, 1987 and February 22, 1986 (8th Week)

Reporting Area	Syphilis (Civilian) (Primary & Secondary)		Toxic-shock Syndrome	Tuberculosis		Tula-remia	Typhoid Fever	Typhus Fever (Tick-borne) (RMSF)	Rabies, Animal
	Cum. 1987	Cum. 1986	1987	Cum. 1987	Cum. 1986	Cum. 1987	Cum. 1987	Cum. 1987	Cum. 1987
UNITED STATES	4,794	3,833	4	2,456	2,479	12	26	7	480
NEW ENGLAND	71	89	-	56	87	-	2	-	-
Maine	-	4	-	7	10	-	-	-	-
N H	1	5	-	3	6	-	-	-	-
Vt	-	4	-	1	5	-	-	-	-
Mass	44	48	-	16	36	-	2	-	-
R I	-	5	-	4	4	-	-	-	-
Conn	26	25	-	25	26	-	-	-	-
MID ATLANTIC	616	513	-	442	492	-	3	-	68
Upstate N Y	27	23	-	91	86	-	1	-	7
N Y City	372	308	U	188	233	-	-	-	-
N J	90	114	-	88	88	-	2	-	-
Pa	127	68	-	75	85	-	-	-	61
E N CENTRAL	72	134	-	336	357	1	6	-	12
Ohio	11	17	-	62	49	1	3	-	-
Ind	6	24	-	19	38	-	1	-	-
Ill	36	67	-	126	172	-	-	-	7
Mich	14	14	-	120	76	-	2	-	-
Wis	6	12	-	9	22	-	-	-	5
W N CENTRAL	26	34	2	64	43	4	2	-	94
Minn	4	6	-	13	8	-	-	-	28
Iowa	4	3	1	6	5	2	-	-	30
Mo	13	18	-	36	24	2	2	-	4
N Dak	-	2	-	1	2	-	-	-	9
S Dak	2	-	-	2	-	-	-	-	14
Nebr	2	2	-	3	2	-	-	-	2
Kans	1	3	1	3	2	-	-	-	7
S ATLANTIC	1,633	1,154	-	536	480	2	4	1	124
Del	16	4	-	2	4	1	-	-	-
Md	84	68	-	46	31	-	-	-	22
D C	55	54	-	16	23	-	-	-	3
Va	40	72	-	59	34	1	-	-	62
W Va	1	3	-	21	18	-	1	-	9
N C	115	96	-	60	48	-	1	-	-
S C	112	122	-	63	69	-	-	1	5
Ga	263	256	-	52	51	-	-	-	24
Fla	947	479	-	217	202	-	2	-	9
E S CENTRAL	382	240	-	204	228	1	-	3	27
Ky	3	18	-	56	63	-	-	-	18
Tenn	161	94	-	-	54	-	-	2	-
Ala	84	84	-	89	84	-	-	-	9
Miss	114	44	-	59	17	1	-	1	-
W S CENTRAL	719	823	-	220	277	3	1	3	68
Ark	33	30	-	16	25	-	-	-	18
La	105	144	-	44	63	-	-	-	2
Okla	23	25	-	21	27	3	1	3	1
Tex	558	624	-	139	142	-	-	-	47
MOUNTAIN	112	93	1	55	52	1	1	-	30
Mont	4	-	-	2	1	-	-	-	15
Idaho	1	1	-	8	2	-	-	-	-
Wyo	-	-	-	-	-	-	-	-	10
Colo	18	30	-	-	1	-	-	-	-
N Mex	11	10	1	14	13	-	1	-	-
Ariz	58	37	-	27	25	1	-	-	5
Utah	-	3	-	1	-	-	-	-	-
Nev	20	12	-	3	10	-	-	-	-
PACIFIC	1,183	753	1	543	483	-	7	-	57
Wash	-	23	1	21	25	-	-	-	-
Oreg	24	20	-	15	22	-	-	-	-
Calif	1,158	702	-	483	387	-	6	-	56
Alaska	-	-	-	9	5	-	-	-	1
Hawaii	1	8	-	35	24	-	1	-	-
Guam	1	1	-	2	-	-	-	-	-
P R	164	120	-	33	43	-	-	-	8
V I	-	-	-	1	-	-	-	-	-
Pac. Trust Terr	-	-	-	11	-	-	3	-	-
Amer Samoa	-	-	-	-	-	-	-	-	-

U: Unavailable

TABLE IV. Deaths in 121 U.S. cities,* week ending February 28, 1987 (8th Week)

Reporting Area	All Causes, By Age (Years)						P&I** Total
	All Ages	≥65	45-64	25-44	1-24	<1	
NEW ENGLAND	724	508	138	43	17	18	63
Boston, Mass.	216	141	47	12	11	5	25
Bridgeport, Conn.	52	37	10	4	-	1	1
Cambridge, Mass.	32	23	9	-	-	-	5
Fall River, Mass.	28	21	3	2	1	1	2
Hartford, Conn.	69	52	11	5	-	1	2
Lowell, Mass.	19	13	3	1	1	1	3
Lynn, Mass.	19	14	3	2	-	-	-
New Bedford, Mass.	23	18	4	1	-	-	2
New Haven, Conn.	53	27	12	7	2	5	-
Providence, R.I.	55	45	7	1	-	2	7
Somerville, Mass.	10	8	2	-	-	-	-
Springfield, Mass.	43	28	9	6	1	1	6
Waterbury, Conn.	33	30	3	-	-	-	1
Worcester, Mass.	72	53	15	2	1	1	9
MID ATLANTIC	3,099	2,074	615	279	59	71	163
Albany, N.Y.	45	31	9	3	-	2	3
Allentown, Pa.	30	26	3	1	-	-	2
Buffalo, N.Y.	143	99	29	6	3	6	14
Camden, N.J.	35	20	8	5	2	-	-
Elizabeth, N.J.	33	25	5	2	1	-	-
Erie, Pa.†	41	30	9	1	-	1	2
Jersey City, N.J.	79	50	14	10	2	2	2
N.Y. City, N.Y.	1,708	1,136	328	180	32	32	74
Newark, N.J.	85	36	26	19	3	1	5
Paterson, N.J.	33	18	7	4	2	2	2
Philadelphia, Pa.§	416	272	92	29	8	15	27
Pittsburgh, Pa.†	65	40	15	1	4	5	4
Reading, Pa.	38	32	6	-	-	-	4
Rochester, N.Y.	131	106	19	4	2	-	16
Schenectady, N.Y.	26	21	4	1	-	-	1
Scranton, Pa.†	28	18	10	-	-	-	1
Syracuse, N.Y.	67	47	14	2	-	4	1
Trenton, N.J.	43	31	5	6	-	1	3
Utica, N.Y.	22	13	7	2	-	-	-
Yonkers, N.Y.	31	23	5	3	-	-	2
E.N. CENTRAL	2,310	1,544	474	160	59	73	102
Akron, Ohio	76	54	13	4	2	3	-
Canton, Ohio	29	24	2	2	1	-	3
Chicago, Ill.§	564	362	126	45	10	22	16
Cincinnati, Ohio	127	92	27	5	2	1	11
Cleveland, Ohio	167	96	38	17	7	9	-
Columbus, Ohio	115	72	23	7	10	3	9
Dayton, Ohio	102	73	21	5	1	2	8
Detroit, Mich.	257	152	57	27	9	12	4
Evansville, Ind.	32	18	10	4	-	-	-
Fort Wayne, Ind.	54	39	8	3	1	3	6
Gary, Ind.	22	12	7	1	2	-	2
Grand Rapids, Mich.	72	56	15	1	-	-	5
Indianapolis, Ind.	189	122	43	11	8	5	6
Madison, Wis.	40	31	6	1	1	1	3
Milwaukee, Wis.	150	112	25	2	4	7	5
Peoria, Ill.	53	42	4	6	1	-	6
Rockford, Ill.	55	40	13	2	-	-	5
South Bend, Ind.	54	38	12	3	-	1	6
Toledo, Ohio	99	72	14	10	-	3	7
Youngstown, Ohio	53	37	11	4	-	1	-
W.N. CENTRAL	820	566	181	34	15	24	63
Des Moines, Iowa	41	21	17	2	-	1	3
Duluth, Minn.	30	23	6	1	-	-	2
Kansas City, Kans.	34	23	7	2	2	-	1
Kansas City, Mo.	124	86	28	6	3	1	6
Lincoln, Nebr.	35	26	5	1	2	1	5
Minneapolis, Minn.	164	121	31	8	3	1	15
Omaha, Nebr.	106	80	15	3	3	5	7
St. Louis, Mo.	155	94	43	8	1	9	16
St. Paul, Minn.	58	42	11	-	-	5	5
Wichita, Kans.	73	50	18	3	1	1	4
S. ATLANTIC	1,477	930	314	132	53	42	79
Atlanta, Ga.	173	106	36	24	5	2	2
Baltimore, Md.	298	189	65	27	9	8	16
Charlotte, N.C.	65	41	9	6	4	5	8
Jacksonville, Fla.	133	94	23	10	5	1	10
Miami, Fla.	96	55	21	13	2	5	1
Norfolk, Va.	58	33	16	7	1	1	2
Richmond, Va.	110	65	32	7	3	3	14
Savannah, Ga.	59	32	12	4	5	6	7
St. Petersburg, Fla.	104	87	12	4	-	1	5
Tampa, Fla.§	82	56	19	3	-	2	6
Washington, D.C.	273	153	65	28	17	8	7
Wilmington, Del.	28	19	4	1	2	-	1
E.S. CENTRAL	916	615	197	52	23	29	62
Birmingham, Ala.	133	87	29	11	1	5	3
Chattanooga, Tenn.	89	64	18	3	1	3	6
Knoxville, Tenn.	122	82	23	10	5	2	17
Louisville, Ky.	106	73	22	5	4	2	5
Memphis, Tenn.	182	113	47	9	3	10	15
Mobile, Ala.	101	70	22	6	1	2	5
Montgomery, Ala.§	50	38	10	2	-	-	1
Nashville, Tenn.	133	88	26	6	8	5	10
W.S. CENTRAL	1,539	958	317	154	59	51	84
Austin, Tex.	60	42	9	7	1	1	8
Baton Rouge, La.	30	15	9	6	-	-	-
Corpus Christi, Tex.	58	43	11	-	-	4	3
Dallas, Tex.	224	129	52	19	17	7	7
El Paso, Tex.	74	47	15	5	4	3	2
Fort Worth, Tex.	111	77	26	7	-	1	9
Houston, Tex.§	309	174	74	36	13	12	7
Little Rock, Ark.	82	55	13	7	4	3	8
New Orleans, La.	174	105	35	26	4	4	-
San Antonio, Tex.	177	123	25	18	7	4	22
Shreveport, La.	106	57	21	12	7	9	5
Tulsa, Okla.	134	91	27	11	2	3	13
MOUNTAIN	720	465	148	65	19	23	39
Albuquerque, N.Mex.	92	55	18	14	5	-	3
Colo. Springs, Colo.	50	33	11	2	3	1	10
Denver, Colo.	116	73	28	12	2	3	5
Las Vegas, Nev.	98	62	25	7	3	1	7
Ogden, Utah	22	15	3	2	1	1	1
Phoenix, Ariz.	161	106	33	11	2	9	1
Pueblo, Colo.	22	15	3	4	-	-	4
Salt Lake City, Utah	50	26	12	7	-	5	-
Tucson, Ariz.	109	80	17	6	3	3	8
PACIFIC	2,256	1,528	407	180	74	60	155
Berkeley, Calif.	23	14	7	2	-	-	4
Fresno, Calif.	103	70	20	8	3	2	5
Glendale, Calif.	29	25	2	1	-	1	-
Honolulu, Hawaii	63	44	15	1	1	2	9
Long Beach, Calif.	81	63	11	5	1	1	11
Los Angeles, Calif.	722	473	135	74	28	7	33
Oakland, Calif.	54	32	11	3	-	8	6
Pasadena, Calif.	49	37	7	1	3	1	6
Portland, Oreg.	141	104	20	11	2	3	8
Sacramento, Calif.	152	114	23	8	3	3	11
San Diego, Calif.	157	107	29	10	7	4	16
San Francisco, Calif.	194	112	48	26	5	3	7
San Jose, Calif.	196	132	36	10	10	8	23
Seattle, Wash.	172	122	23	12	9	6	5
Spokane, Wash.	63	42	13	3	-	5	8
Tacoma, Wash.	57	37	7	5	2	6	3
TOTAL	13,861††	9,188	2,791	1,099	378	391	810

* Mortality data in this table are voluntarily reported from 121 cities in the United States, most of which have populations of 100,000 or more. A death is reported by the place of its occurrence and by the week that the death certificate was filed. Fetal deaths are not included.

** Pneumonia and influenza.

† Because of changes in reporting methods in these 3 Pennsylvania cities, these numbers are partial counts for the current week. Complete counts will be available in 4 to 6 weeks.

†† Total includes unknown ages.

§ Data not available. Figures are estimates based on average of past 4 weeks.

Rheumatic Fever — Continued

2-month period before onset, more thorough throat culturing of symptomatic patients will not eliminate rheumatic fever. Further studies are needed to better define whether infection by certain strains of *Streptococcus* are more likely to result in ARF and what genetic factors may predispose to illness. The Respiratory Diseases Branch, Division of Bacterial Diseases, Center for Infectious Diseases, CDC, would like to be notified by state health departments of other suspected clusters of cases of ARF as well as to receive isolates of group A *Streptococcus* isolated from patients with known or suspected ARF through state health laboratories.

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Update: Influenza Activity — United States

Influenza viruses have been isolated in all states and the District of Columbia during the 1986-87 season; 49 states* and the District of Columbia have reported at least one isolate of influenza type A/Taiwan/86(H1N1). Most states are now reporting declining activity. The peak level of outbreak activity occurred in mid-January when 28 states reported outbreaks. Activity this season was below the peak of the previous winter when 37 states reported outbreaks for 1 week in February. For the week ending February 21, only two states† reported widespread outbreaks of influenza-like illness, and 11 states§ and Puerto Rico reported regional outbreaks.

The percentage of deaths associated with pneumonia and influenza (P&I) reported from the 121 cities reporting regularly to CDC reached a peak of 6.2% for the week ending January 24, 1987. Although this percentage exceeded the epidemic threshold (Figure 1), it was below the peak reported for the previous two epidemic seasons, in which the percentage of deaths associated with P&I reached 7.2% and 6.6% respectively. This mortality surveillance system indicates a slight increase in P&I deaths at a time corresponding with the peak of influenza A/Taiwan/86 activity.

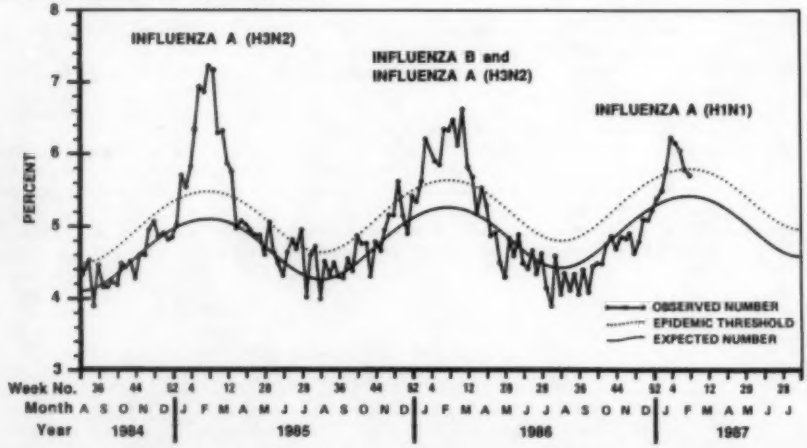
Reported by State and Territorial Epidemiologists; State Laboratory Directors; WHO Collaborating Center for Influenza, Influenza Br, Div of Viral Diseases, Center for Infectious Diseases, CDC.

*Wyoming has not reported A/Taiwan/86 influenza.

†Idaho and South Dakota.

§Arkansas, Connecticut, Iowa, Kansas, Mississippi, Missouri, Nebraska, North Dakota, Pennsylvania, Texas, and Wisconsin.

FIGURE 1. Pneumonia and influenza deaths as a percentage of total deaths* — United States, August 1984-February 1987



*Reported to CDC from 121 cities in the United States. Pneumonia and influenza deaths include all deaths for which pneumonia is listed as a primary or underlying cause or for which influenza is listed on the death certificate.

Perspectives in Disease Prevention and Health Promotion

Prevention Policy Review Group
Summary of Meeting — March 27, 1986

A distinguished panel comprised of former Assistant Secretaries for Health and presidents of major national public health organizations was convened in March 1986 by the Public Health Service (PHS) to consider past, current, and future directions for PHS disease prevention and health promotion policies*. The panel was chaired by the Deputy Assistant Secretary for Health (Disease Prevention and Health Promotion). Given federal health policy and initiatives as a reference, panel members were asked to assess approaches to preventing health problems facing the nation; to consider whether these problems deserved increased, continued, or lessened emphasis; to suggest ways in which existing resources could more effectively support disease prevention and health promotion measures; and to recommend a national approach to establishing health objectives for the year 2000.

Deliberations by the review panel yielded 10 critical themes for PHS prevention efforts through the remainder of the century. Rationales for inclusion of and direction for these individual themes are provided.

National Objectives. Refine and apply national objectives in disease prevention and health promotion. *Rationale:* The process of establishing and tracking measurable national objectives to be achieved by 1990 has not only helped to establish a national health agenda and identify explicit health priorities, but also has facilitated organized responses and has supported progress toward enhanced levels of health. The PHS should continue the leadership shown in the 1990 process and extend the effort to the year 2000. The objectives are important because they stimulate organized objective-setting at the state level and strengthen the interface between national, state, and local programs. The link between the objectives and "Model Standards: A Guide for Community Preventive Health Services" should be emphasized (*1*). Federal and state legislators as well as private and voluntary organizations should be involved in setting the health agenda. Setting objectives for the year 2000 should be a broad, grassroots effort that solicits extensive community-level involvement. The results should be widely publicized with a national conference.

Reimbursement. Facilitate broader reimbursement for preventive services delivered in clinical settings. *Rationale:* Given that physicians will continue to be the prominent deliverers of health care services, it is necessary to create incentives for physicians to deliver preventive services. The same can be said for other deliverers of clinically-based preventive services. Innovative approaches to financing preventive services, in the public and private sectors and for individuals and groups, need to be explored. Initiatives by private insurers for coverage of pre-

*Participating panel members. Former Assistant Secretaries for Health: Theodore Cooper, MD, PhD, Vice Chairman of the Board, Upjohn Company; Merlin K. DuVal, MD, President, American Healthcare Institute; Roger O. Egeberg, MD, Scholar, Institute of Medicine, National Academy of Sciences; Julius B. Richmond, MD, Director, Division of Health Policy Research and Education, Harvard University. Presidents of public health organizations: William Bridgers, MD, Dean, School of Public Health, University of Alabama/Birmingham (Association of Schools of Public Health); Christopher M.G. Buttery, MD, MPH, State Health Commissioner, Virginia Department of Health (U.S. Conference of Local Health Officers); William H. Foege, MD, MPH, Executive Director, Carter Presidential Center at Emory University (American Public Health Association); Joel L. Nitzkin, MD, MPH, Director, Monroe County Department of Health, Rochester, New York (National Association of County Health Officials); Jay Noren, MD, Acting Vice Chancellor, University of Wisconsin (Association of Teachers of Preventive Medicine); Lloyd F. Novick, MD, MPH, Director, Center for Community Services, New York State Department of Health (Association of State and Territorial Health Officials); George E. Pickett, MD, Chairman, Department of Health Care Organization and Policy, Department of Public Health, University of Alabama/Birmingham (American College of Preventive Medicine).

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ventive services should be encouraged. Likewise, federal reimbursement programs should engage more directly in prevention, while taking account of the need for budget neutrality in tight fiscal times.

School Health. Foster a major national effort to enhance the quality and scope of school health programs. *Rationale:* It is clear that the health knowledge, attitudes, and practices developed during childhood become the basis for adult health practices and shape the prospects for health in later years. The school environment has significant impact on decisions of fundamental importance to life and health, such as the use of tobacco, alcohol, and drugs; sexual practices; and dietary and exercise habits. Where possible that environment ought to foster healthy practices. A major national study has recently confirmed that proper school health education efforts can change attitudes and behavior (*2*). Yet, survey evidence also indicates that school-based health initiatives are too few, too infrequent, and often misdirected (*3*). The PHS should work with state and local school leaders, teachers, and the U.S. Department of Education to foster health promotion and health education programs and sponsor demonstrations and pilot programs to apply and improve upon what is already known.

Marketing Strategies. Develop methods of effectively presenting health promotion information by using simple, clear messages with unifying and mutually reinforcing themes. *Rationale:* With more than half of all preventable deaths in the United States attributable to behavioral choices, an imperative for national health policy is the development of an effective means of motivating healthy choices related to smoking, alcohol and drug use, exercise, diet, safety, and the app opriate use of preventive services. The PHS should make full use of the potential of marketing techniques by developing media-oriented materials that bring together common themes and messages on health behavior, personal choice opportunities for health, and actions that can improve health. Partnerships with private and voluntary organizations, states, and localities are critical to success.

Low Income Populations. Establish as a special priority a focus on the health promotion and disease prevention opportunities for low-income Americans. *Rationale:* While disease prevention and health promotion activities have already had a dramatic impact on the conditions of a substantial portion of our society, there is evidence that minorities are at higher risk for each of the major diseases and conditions confronting Americans. If minorities had the same life expectancy as whites, there would be 60,000 fewer deaths among minority Americans each year. Six causes of death account for more than 80% of the excess mortality in minority groups; they are cancer, cardiovascular diseases, infant mortality, cirrhosis, diabetes, and trauma. A substantial measure of these conditions can be prevented. The PHS and public health programs at the state and local levels bear special responsibility for leading in addressing the needs of these groups.

The Elderly. Establish as a special priority a focus on the health promotion and disease prevention opportunities for older Americans. *Rationale:* Over the course of this century, the share of the nation's population which is over age 65 will have increased from 4% in 1900 to 13% by the year 2000. The fact that more Americans reach older ages is largely attributable to successful disease prevention efforts. Yet improved health is possible even after age 65, and the health care system will be challenged to think of disease prevention along a much broader continuum than before. A person is never too old to benefit from appropriate exercise, cessation of smoking, or improved dietary habits; in addition, special measures are needed among the elderly to prevent injuries and problems from medications. The Healthy Older People Program of the PHS has taken an important step to extend prevention to older people (*4,5*). Such efforts need to be sustained, expanded, and augmented with a better-trained cadre of health professionals to deal with the problems of the elderly.

Capacity Building. Stimulate and support efforts, including training, to strengthen state and local capabilities in disease prevention and health promotion. *Rationale:* Capacity for car-

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rying out effective disease prevention and health promotion programs at the state and local levels derives from organizing resources and accurate information around defined problems. The model standards for community preventive health services provide a standard by which localities can assess their health care system (*1*). Enhanced summarization, translation, and dissemination of current scientific information is necessary for more widespread implementation of effective state and local programs. The PHS can assist in this regard. Sponsoring continuing education workshops and training efforts can enhance the application of new intervention techniques in prevention.

Coalition Building. Support the development and strengthening of community-level coalitions for achieving disease prevention and health promotion. *Rationale:* The essential infrastructure for establishing effective long-term programs in disease prevention and health promotion is at the community level. To assure a commitment to such efforts, the support and involvement of community leaders must be recruited. Organized approaches to community-based disease prevention/health promotion will require significant coordination of resources and interests. The PHS should serve as a catalyst in these efforts, helping to put resources to use at the local level. The PHS should provide technical assistance and develop collaborative models for establishing local coalitions for health.

Economic Analyses. Undertake economic analyses that can support efforts to change reimbursement decisions and tax policies favorable to disease prevention and health promotion. *Rationale:* The use of tax policy and other economic means to create incentives for individuals, institutions, insurers, and corporations to participate in health promotion and disease prevention efforts has not been explored widely enough. Healthy populations place less economic drain on a society's health budget and retain higher productivity potential. Promoting health through tax policy and economic incentives will require well-designed studies; significant collaboration between legislators and those who pay for health services; and a conviction that some reasonable risks should be taken, at least on a pilot basis. The PHS should develop approaches demonstrating how such incentives can be used to change health behaviors. The PHS should also develop analytic reviews of the relative merits of various interventions in improving the functional capacity of our society.

Transfer of Research Results. Foster the expeditious application of research findings—particularly for applied research—by strengthening mechanisms for systematically synthesizing, classifying, and translating research results in prevention. *Rationale:* It is research that has made possible the present achievements in health. Many more advances can be anticipated, and every day's delay in their application means lives lost unnecessarily. The PHS needs, therefore, not only to deepen its commitment to research in prevention, but to foster developing a means for speeding application of research results. Communication needs to be improved between the research community and practicing physicians, state and local public health officials, and officers of voluntary and professional organizations as well as with leaders in new avenues for disease prevention and health promotion, such as schools, worksites, and the media.

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Editorial Note: The themes and points of deliberation arising out of this Prevention Policy Review Session represent the considered opinions of key leaders in the health field. They are personal opinions, but they form a critical portion of the public record on disease prevention/health promotion policy and will be relevant to continuing activities and deliberations around the 1990 Objectives for the Nation and ultimately the national health objectives established for the year 2000. Comments on the points arising out of this policy review session are welcome: Please send them to J. Michael McGinnis, M.D., Deputy Assistant Secretary for Health, Director, Office of Disease Prevention and Health Promotion, Switzer Building, Room 2132, 330 C Street, SW, Washington, DC 20201.

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FIGURE I. Reported measles cases — United States, weeks 04-07, 1987

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